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Elevate Your Information Services Business with AI

Professional Information Industry Landscape

The Information Age shows no signs of slowing down. Over the next three years alone, we will create more data than we have over the past thirty, according to IDC. Unfortunately for professionals, this abundance of data is often more often overwhelming than efficient. As a result, it has cast a long shadow of commoditization on the information services business.

Meanwhile, the transition to remote and hybrid work environments has accelerated enterprise adoption of digital-first workflows. Investment analysts are turning to alternative data and analytics to improve performance. Researchers and healthcare professionals are leveraging open data to improve drug effectiveness and patient outcomes. Likewise legal service providers are responding to clients who can no longer meet their attorney in person.

Most industries now rely on information providers' platforms to support their workflows in addition to making information more accessible and manageable. Information providers are responding in kind, with 67% of them positioning new product development as their first strategic priority, according to a recent Outsell survey.

Creating products that cater to these needs and stand out in the market can be a daunting and complex task. However, artificial intelligence (AI) and, in particular, natural language processing (NLP) have emerged as optimal solutions that deliver strategic value to information services providers. They do so by:

- Delivering a compelling information access experience that reduces information overload
- Building concise, information-centric products that accelerate professional work
- Ensuring productive workflows for information providers

Create a Compelling User Experience

Content is king, but the user experience is where information providers truly establish their competitive edge. This is especially true of today's information landscape. As a result, seamless content navigation has become a baseline towards user equity. To truly stand out and address a broader user base, organizations must go above and beyond with their user experience.

How does NLP enrich metadata?

The most common operations in an NLP pipeline are **document classification**, **topic extraction**, **and entity extraction**.

For each of these operations, the model automatically reads each document and assign labels (metadata) based on the recognized content to designate:

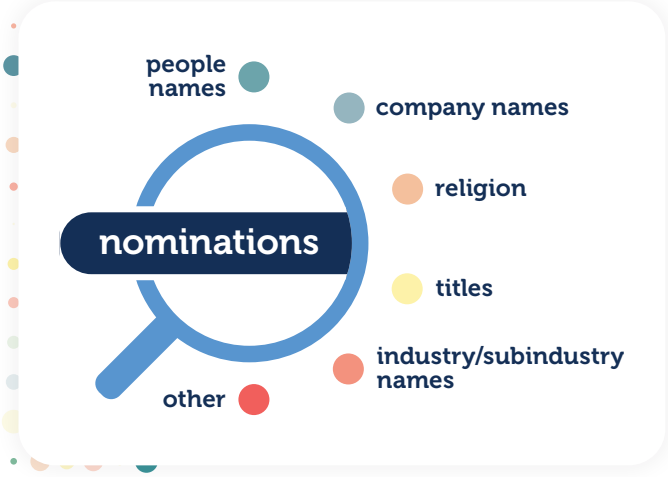
- an overall category (e.g., politics or sports)
- a range of themes mentioned (typically based on a taxonomy of reference)
- a range of named objects (e.g., people, companies, locations or even domain specific objects)

Each of these metadata labels can then be used as a proxy describing the contents of the document and helping determine if it will be relevant to a user's needs.

The foundation for seamless content navigation is metadata. Many overlook this, but this is where natural language processing (NLP) truly shines. NLP semantically enriches content metadata and expands the range of navigation options you can build into your information products, which include:

Faceted Search

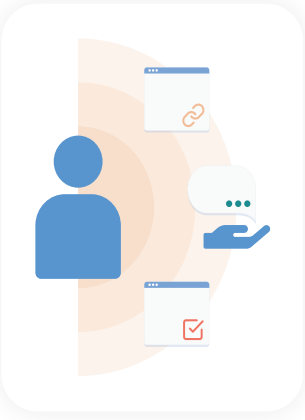
Faceted search is a basic metadata-driven navigation mechanism. It offers a powerful complement to keyword search as it presents users with lists of taxonomy concepts and entities that users can click through (i.e., facets), making it easy to identify content that is most relevant to their needs.



For example, a user searching for nominations could be presented with navigation options based on people's names, company names, regions, titles, industry/subindustry names and more. This accelerates and simplifies the identification of relevant events by reducing the number of searches needed to just a few clicks.

Content Recommendation and Topic Pages

The modern customer experience is all about personalization. According to Epsilon, 80% of consumers are now more likely to use a company that offers personalized experiences. For you, this could mean providing context and perspective to users via **personalized content recommendations** (e.g., presenting the user with other recent nominations in the same industry or by the same company) or links to structured knowledge (e.g., the names of other key executives in the same company, financial data about the companies mentioned, or hiring statistics in the relevant industry).



It could also mean that you provide users with **topic pages** that present all relevant information about an entity or topic of interest. If your users are biomedical researchers, they may be tracking information about a particular topic (e.g., mRNA-based vaccines).

Semantic metadata makes it easy to assemble the available information on a topic onto a single page. This could include everything from the latest news articles to scientific research papers to treatment outcome statistics. Subsequently, users don't need to search for relevant information as it is already aggregated into a standalone resource. You can scale this approach to as many topics as your metadata contains.

Alerts

Any of the above can also be delivered as **alerts** specific to the entities, topics and events of a user's choice. This is a simple functionality, but one that provides a low-touch option for users who require targeted information in real time.

By driving efficient information access and delivery mechanisms such as those mentioned above, semantically enriched metadata helps information service providers deliver compelling user experiences that drive user satisfaction and audience engagement.

Innovative Productization

In addition to efficient information access, users also expect their information platforms to support their workflows. NLP is essential to meeting this expectation due to its ability to extract structured data points from originally unstructured data. This enables information service providers to build differentiated products that go beyond raw information so professionals can gain insight from data and make better decisions for their business.

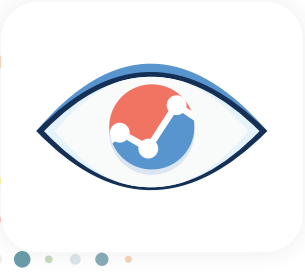
Knowledge Bases

Knowledge bases are a prime example of a product built from structured data extracted from unstructured content. Also referred to as knowledge graphs, **knowledge bases** can be precious tools for professionals in their workflow.

In the legal industry, for example, attorneys must develop a cogent enough picture of case law in their field of focus to advise clients on the possible outcomes of their case. However, painting this picture often requires the collation of datapoints from thousands of legal decisions, which attorneys and their staff may lack the time to do. Using NLP, legal information service providers can quickly and easily automate the extraction of these datapoints from relevant case law.

For example, in the case of a car accident, attorneys are presented with quantified datapoints about the sentence (e.g., length of imprisonment or probation, damages, etc.) as well as datapoints that illustrate the context of the accident (e.g., age and gender of the accused, nature of injuries and/or vehicle damage, fault level, etc.). These datapoints are then collated to form a detailed view of outcomes in cases similar to the client's, based on current case law.

The knowledge base approach augments professionals with structured data that can advance their workflow or decision making without the burden of digging for signals in the primary content. As an information provider, NLP helps you differentiate your product by supporting your end-users with a more efficient workflow.



Analytics and Visualization

Another area in which you can add value is **analytics and visualizations**. Any datapoint you extract from content can be leveraged through trendlines, heatmaps or network graphs, providing users with information in a more insightful and actionable format.

In biomedical research for example, information service providers can illustrate the competitive landscape of any therapeutic area by extracting datapoints about molecules under research (e.g., commercial name, clinical research stage, sponsoring company, etc.) and their characteristics (e.g., mechanism of action, target, dosage, therapeutic effects and/or toxicity, etc.) or graph collaboration networks by extracting datapoints about researchers, their affiliations, topics of research, co-authorship and mutual citation patterns.

These visualizations help clinical strategists make more informed decisions about the drugs they are developing and identify which experts are key opinion leaders in the field. Depending on end user requirements, data can be plotted into a variety of advanced visualizations that support more efficient decision making.

Smart Summaries and Workflow Integration

As information providers leverage NLP more consistently as a strategic capability, new usage patterns have emerged in their practice. One such emerging product category revolves around the use of NLP to assemble **smart summaries**.

Smart summaries are a smaller-scale derivative of a knowledge base that are typically applied to long documents (e.g., financial reports or legal decisions) or medium-size groups of documents (e.g., news articles on a given topic or entity).

The technology extracts all the key facts, events and attributes related to a given entity, then presents them in a quasi-narrative form. This offers end users another, more synthetic version of their information, enabling them to quickly gain insight into the subject matter without incurring the cost and effort of reading all of the primary materials.

In financial services, a smart summary approach could help financial analysts deepen their sector- or company-level insights in a fraction of the time it takes to become knowledgeable in the subject matter. This enables faster investment decisions — a key critical KPI for the asset management workflow.

Workflow integration is another derivative of the knowledge base that you can productize. This is the API-based feeding of data or content from the knowledge base into an end user's workflow application.

In healthcare, physicians can leverage this to receive immediate dosage recommendations, drug interaction warnings and contraindication alerts as they fill out a patient's prescription. This is a simple way to improve treatment targeting which, in turn, improves patient outcomes.

With its unique ability to extract structured data from unstructured content, NLP provides an opportunity for you to clearly differentiate your products from the competition. In doing so, you empower professionals to reduce their workload and create more efficient workflows.

Workflow Productivity

The Productivity Benefits of Automation

speed

Content processing takes a fraction of the time previously required, ensuring competitive time-to-market and responsive product updates.

scale

Processing can be applied to larger volumes than ever before - some implementations involve millions of documents daily.

cost efficiency

The speed and scale afforded by automation helps streamline processing workflows & reduce the cost of metadata.

felexibility

Low-touch automation opens the door to overnight reprocessing and low-friction changes to taxonomies and metadata schemas.

granularity

Automation makes the cost of increasing the granularity of your metadata margina.

Your ability to process large volumes of raw content and data, and then progressively refine and assemble it into high-value information products for your customers is crucial to the succes of your information services business.

Automated Content Enrichment

In the past, processing activities were all manual. Today, rather than index your content manually, you can leverage NLP to **automate content enrichment** with scalable and consistent tagging, categorization and information extraction. With automation, you introduce a range of productivity benefits that can be shaped to your priorities.

As previously noted, metadata is the foundation for efficient content navigation and packaging. Therefore, the flexibility offered by NLP-driven automation means that more granular metadata can be easily applied to content. This ultimately trickles down into your editorial workflows, making it easier for your teams to package data into compelling products and develop advanced search and navigation features.

Taxonomy Maintenance

NLP also provides valuable support for **taxonomy maintenance**. As subject matter inevitably evolves over time, you must maintain your taxonomies accordingly. NLP gives you the ability to automatically identify concepts that appear in your content but are not yet part of your taxonomy. This simplifies decision about which new terms to incorporate as an extension of your taxonomy. In doing so, you improve your metadata, productization capabilities *and* customer experience.

Repurposed Archives

Lastly, NLP enables you to **repurpose your archives** more easily. Content generally has a relatively short shelf life, but that does not mean that older content cannot come in handy. With NLP technology, you can easily inspect your archives, identify monetizable assets and repurpose them to fit your present needs.

For example, archived medical research on a drug may have information about side effects relevant to your research on a new drug. A deeper understanding of the data within your archives could be exactly what your users need to get their products to market faster.

Conclusion

As the information services landscape becomes more complex, your success as an information services provider hinges on your ability to deliver efficient access to the information that is most relevant to your customers and to do so while supporting their workflows.

NLP is a strategic enabler in this process and has become a de facto competitive requirement for information services providers. Don't let your information overwhelm you. Adopt natural language processing as your platform for growth and let your information serve you and your customers as it was meant to.

Get Started

Interested in learning how NLU AI will transform your company? Get started here.

See what expert.ai can do for you!

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About us

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